

What is claimed is:

1. A prosthetic disc comprising:

A disc body, having a disc body base surface having a center point having a base surface central normal vector extending therefrom; and a disc body articulating surface opposite the disc body base surface, the articulating surface being concave with respect to
5 a first disc body plane parallel to the base plate central normal vector, and being convex with respect to a second disc body plane, parallel to the base plate central normal vector and orthogonal to the first disc body plane.

2. The prosthetic disc of claim 1 wherein the second disc body plane is the midsagittal plane.

3. The prosthetic disc of claim 1 wherein the curve of the articulating surface in the first disc body plane is parabolic.

4. The prosthetic disc of claim 1 wherein the curve of the articulating surface in the first disc body plane is hyperbolic.

5 5. The prosthetic disc of claim 1 wherein the curve of the articulating surface in the first disc body plane follows a radius.

6. The prosthetic disc of claim 1 wherein the curve of the articulating surface in the second disc body plane is parabolic.

7. The prosthetic disc of claim 1 wherein the curve of the articulating surface in the second disc body plane is hyperbolic.

8. A prosthetic disc comprising:

A disc body, having a disc body base surface and a disc body articulating surface opposite the disc body surface, wherein at least a substantial region of said disc body articulating surface is concave-convex.

9. The prosthetic disc of claim 9 wherein the disc body articulating surface is a hyperbolic paraboloid.

10. The prosthetic disc of claim 9 wherein the curve of the articulating surface in a first disc body plane is parabolic.

11. The prosthetic disc of claim 9 wherein the curve of the articulating surface in a first disc body plane is hyperbolic.

12. The prosthetic disc of claim 9 wherein the curve of the articulating surface in a first disc body plane follows a radius.

13. The prosthetic disc of claim 12 further comprising a base plate secured to the disc body base surface.

14. The prosthetic disc of claim 13 wherein the base plate comprises an anchor.

15. A method of installing a prosthetic disc comprising the steps of:
- removing a portion of an intervertebral disc, thereby creating an intervertebral disc space, and
- placing a prosthetic disc substantially within said intervertebral disc space;
- 5 wherein the prosthetic disc comprises:
- a disc body, having a disc body base surface having a center point having a base surface central normal vector extending therefrom; and
- a disc body articulating surface opposite the disc body base plate surface, the articulating surface being concave along a first disc body plane parallel to the
- 10 base plate central normal vector, and being convex along a second disc body plane, parallel to the base plate central normal vector and orthogonal to the first disc body plane.

16. A prosthetic disc comprising:

A first disc body, having a first disc body base surface having a first vector extending normally therefrom, and a first disc body articulating surface opposite the first disc body base surface, the articulating surface being concave along a first disc body first plane parallel to the first vector, and being convex along a first disc body second plane, parallel to the first vector and orthogonal to the first disc body first plane, the outer regions of the first disc body articulating surface along and adjacent to the first disc body first plane defining a first disc body concave region and the outer regions of the first disc body articulating surface along and adjacent to the first disc body second plane defining a first disc body convex region;

a second disc body, having a second disc body base surface having a second vector extending normally therefrom, and a second disc body articulating surface opposite the second disc body base surface, the articulating surface being concave along a second disc body first plane parallel to the second vector, and being convex along a second disc body second plane, parallel to the second vector and orthogonal to the second disc body first plane, the outer regions of the second disc body articulating surface along and adjacent to the second disc body first plane defining a second disc body concave region and the outer regions of the second disc body articulating surface along and adjacent to the second disc body second plane defining a second disc body convex region;

the first disc body articulating surface and the second disc body articulating surface being disposed in abutting relationship, and oriented such that at least a portion of the first disc body concave region is mated to at least a portion of the second disc body convex region or at least a portion of the first disc body convex region is mated to at least a portion of the second disc body concave region.

17. An artificial disc suitable for placement between adjacent vertebra comprising:

a first disc body, having a first disc body base surface and a first disc body articulating surface opposite said first disc body surface, wherein at least a substantial region of said first disc body articulating surface is a hyperbolic paraboloid; and

5 a second disc body, having a second disc body base surface and a second disc body articulating surface opposite said second disc body surface, wherein at least a substantial region of said second disc body articulating surface is a hyperbolic paraboloid, and wherein said second disc body articulating surface is substantially reciprocal to first disc body articulating surface, wherein said first disc body articulating surface and said second disc body articulating surface being disposed in abutting
10 relationship and cooperatively form a saddle-joint.

18. An artificial disc suitable for placement between adjacent vertebra comprising:

an upper body having an upper body base surface and an upper body concave-convex articulating surface opposite said first disc body base surface; and

a lower body, having a lower body base surface and a lower body concave-convex
5 articulating surface opposite said lower body base surface;

the upper body and lower body forming a saddle joint by the reciprocal reception of the lower body concave-convex articulating surface with the upper body concave-convex articulating surface.